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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/604,832	08/20/2003	Eduardo Figueiredo	GEMS8081.159	1831
27061	7590	02/12/2007		
ZIOLKOWSKI PATENT SOLUTIONS GROUP, SC (GEMS)			EXAMINER	
136 S WISCONSIN ST			SOLANKI, PARIKHA	
PORT WASHINGTON, WI 53074				
			ART UNIT	PAPER NUMBER
			3737	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/12/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	10/604,832		FIGUEIREDO ET AL.	
	<b>Examiner</b>		<b>Art Unit</b>	
	Parikha Solanki		3737	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 January 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14, 18-20 and 22-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14, 18-20 and 22-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Amendment***

1. Applicant's amendments of claims 3 and 21-25, submitted on 4 January 2007, are acknowledged and accepted as sufficient to overcome the Claim Objections set forth in the prior Office Action. Accordingly, these objections are withdrawn.

Applicant's amendments of claims 8 and 21-25, submitted on 4 January 2007, are acknowledged and accepted as sufficient to overcome the rejections under 35 U.S.C. 112 set forth in the prior Office Action. Accordingly, these rejections under 35 U.S.C. § 112 are withdrawn.

Applicant's cancellation of claims 15-17 and 21 is acknowledged.

Regarding the rejection of claims 1-20 and 26 under 35 U.S.C. § 102, Applicant contends that the applied Eilenberg (US Patent No. 5,414,358) reference does not teach or suggest a retainer for the MR coil, nor does the reference teach or suggest an electronic pump for controlling inflation of the probe housing. Applicant has accordingly amended the claims of the current application to further limit the scope of the claimed invention.

The amendment filed on 4 January 2007 under 37 CFR 1.131 has been considered but is ineffective to overcome the Eilenberg (5,414,358) reference. Examiner maintains that the inflated housing of Eilenberg ('358) constitutes a retainer as claimed in the instant application, and Examiner further presents evidence that Eilenberg ('358) does in fact disclose an electronic pump (col. 11 lines 9-16). Eilenberg ('358) teaches this pump for an alternative embodiment, but, as it is a functional equivalent to the syringe provided for the endocavity probe embodiment, there is sufficient motivation to combine the features of these two embodiments to obviate the claims of the present invention.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-10, 20 and 23-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Eilenberg (US Patent Number 5,414,358).

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Regarding claims 1 and 10, Eilenberg ('358) discloses a probe for endo-cavity MR imaging where the MR coil is enclosed in a bag into which fat saturation enhancing material is introduced, wherein the fat saturation enhancing material also enhances homogeneity (col. 12 lines 29-34, Figs. 14 & 15). Eilenberg ('358) discloses that "upon filling, the bag conforms to the shape of the inside of the body cavity" (col. 12 lines 46-48), and thereby the bag is secured within the cavity being imaged. As set forth by Merriam-Webster (<http://www.m-w.com>), the word "retainer" is defined as:

Main Entry: retainer

Function: *noun*

1 a: a person attached or owing service to a household; *especially* : servant b: employee

2: one that retains

**3: a device or structure that holds something in place:** as a: the part of a dental replacement (as a bridge) by which it is made fast to adjacent natural teeth b: a dental appliance used to hold teeth in correct position especially following orthodontic treatment

In view of the fact that the MR coil of Eilenberg ('358) is disposed within the bag, as previously discussed above, and further in view of the explicit definition of the word "retainer" provided above, the inflated bag anchors the probe within the body cavity and thereby constitutes a retainer that secures the MR coil within the subject to be imaged as claimed in the instant application.

Regarding claim 20, Eilenberg ('358) provides a method for using the endocavity MR probe as previously discussed for claims 1 and 10. The definition of the word "pump," as provided by Merriam Webster (<http://www.m-w.com>) is as follows:

Main Entry: pump

Function: *noun*

Definition:

**1 : a device that raises, transfers, delivers, or compresses fluids or that attenuates gases especially by suction or pressure or both**

2 : heart

3 : an act or the process of pumping

4 : an energy source (as light) for pumping atoms or molecules

5 : a biological mechanism by which atoms, ions, or molecules are transported across cell membranes

Eilenberg ('358) discloses that the homogeneity enhancing fluid may be delivered by "a syringe or other source via tube 92" (col. 12 lines 41-43). The syringe of Eilenberg ('358) constitutes a pump by the definition set forth above.

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Regarding claims 2, 4-6, and 23-25, Eilenberg ('358) further discloses that the fat saturation enhancing material may be a perfluorocarbon, which is well known in the art to promote magnetic field homogeneity in MR spectroscopy applications (col. 7 lines 22-25). Eilenberg ('358) specifies that fluorocarbon compounds have a magnetic susceptibility similar to that of water-containing human tissue, and also discloses that such compounds are in a gel or liquid state at room temperature (col. 7 line 25-27 & 46-68).

Regarding claim 3, Eilenberg ('358) discloses that the bag is selectively fillable so as to facilitate maximum contact between the bag containing the homogeneity-enhancing material and the body cavity being imaged, which allows for receiving MR data from a wider area of the subject as described in the specification of the instant application (col. 11 lines 6-8).

Regarding claims 7-9, Eilenberg ('358) states that the probe may be in a deflated state prior to insertion into the rectum, and that the probe can be inflated via a syringe following insertion (col. 12 lines 39-43).

Regarding claim 26, Eilenberg ('358) discloses the probe as being an assembly of separate components, including the coil, housing and supply of perfluorocarbon, all of which collectively constitute a kit (Fig. 1). The bag of Eilenberg ('358) constitutes a retainer as previously discussed for claims 1, 10 and 20.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 11-14, 18-19 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eilenberg ('358).

Regarding claims 11-14 and 18-19, Eilenberg teaches all features of the present invention as previously discussed. Eilenberg ('358) further describes the MR probe in the context of common MRI machines (col. 9 line 22). It is well known that state of the art MRI systems comprise a plurality of gradient coils positioned about a bore of a magnet, an RF transceiver system, and an RF switch controlled by a pulse module. Eilenberg ('358) thereby teaches that



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the homogeneity-enhancing probe ('358) may comprise an apparatus including such a probe, in addition to including a gradient coil, RF transceiver system, and an RF switch.

Eilenberg does not expressly teach an embodiment including an endocavity coil and an electronic pump. In a different embodiment, Eilenberg ('358) provides a pump 60 for delivering fat saturation enhancing material to the bag (col. 11 lines 9-13). Eilenberg ('358) states that the "bag is filled by turning on the pump 60 to feed the fat saturation enhancing material through the inlet tube 50 from the reservoir 75" (col. 11 lines 14-16). By stating that the pump must be turned on, Eilenberg ('358) thereby implies that the pump is electronically controlled. It would have been obvious to one of ordinary skill in the art at the time of invention to use the electronic pump of Eilenberg ('358) with the endocavity coil embodiment also taught by Eilenberg ('358) in order to more precisely control the delivery of the homogeneity enhancing material.

Regarding claim 22, Eilenberg ('358) substantially discloses all features of the present invention as previously discussed, with the exception of an automated inflation control to control the inflation of the housing with the homogeneity enhancing material. Eilenberg ('358) does provide means for manually controlling the inflation of the housing, and further teaches that the housing is selectively fillable (col. 11 lines 6-8, col. 12 lines 41-46). Automating such a manual task is not sufficient to patentably distinguish the claimed invention from the prior art, as is further detailed in MPEP § 2144. As such, the step of automating the control of the housing inflation is considered unpatentable over Eilenberg ('358).

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. In the same problem solving area, Prince (US Patent No. 5,417,213) provides means and steps for electronically pumping an MR contrast agent into the body of a patient.

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

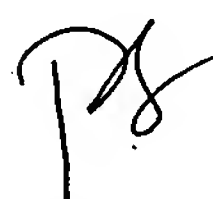
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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Parikha Solanki whose telephone number is 571.272.3248. The examiner can normally be reached on M-F, 8 - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Casler can be reached on 571.272.4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Parikha Solanki  
Examiner – Art Unit 3737



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